



News for Immediate Release
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DWR Reports Twitchell Island Levee Remains Stable

SACRAMENTO -- The Department of Water Resources (DWR) reports work on a temporary berm has been completed and monitoring continues at a Twitchell Island levee where a sinkhole was discovered Wednesday.

No new signs of distress have been detected. There has been no change in the size of the sinkhole and no signs of levee cracking or additional movement. Meanwhile, the sinkhole has been covered to protect it from rain and keep it undisturbed while it is monitored.

DWR engineers have developed the following action plan:

- Maintain communication with Reclamation District 1601 staff members who will conduct visual checks at the site several times a day for the next few days.
- Work with Reclamation District staff and engineers to further study the sinkhole using magnetic imaging and/or trenching.
- Work with Reclamation District staff and engineers to conduct a bathymetric survey on the river side of the levee.

The three foot long, eight inch wide sinkhole is in the levee crown, a few feet landward of the roadway centerline. It could be probed to a depth of about three feet and appeared to widen as it got deeper. This type of sinkhole is commonly found with levee cracking and/or lateral movement. While no cracking was observed in this case, the levee was depressed a few inches for a distance of about 150 feet, centering on the sinkhole.

Reclamation District engineers led the initial repair effort with funding and technical assistance from DWR. An emergency berm approximately 200 feet long, 70 feet wide, and about 3 feet high was constructed by the Dutra Construction Company using a barge-mounted crane to place approximately 3,000 to 4,000 tons of aggregate material.

Preliminary repair cost estimates are \$180,000. Initial funding will be provided through

DWR's Delta Subventions Program, with additional funding from Special Projects.

DWR engineers believe it's likely that subsurface lateral movement in the deep peaty foundation opened a crack and/or void below the surface which chimneyed up to the levee crown. This particular Twitchell Island levee reach has had previous stability problems and was buttressed in the early 1990's with dredge soil.

Most of the 3,516 acre Island is owned by DWR. Although farming continues, some of the island is in a wetlands restoration program and organic carbon management research projects are being conducted there. Peat soils on Twitchell were gradually lost during the 20th century due to agricultural practices and much of the island is below sea level.

Also see the first release on this subject:

<http://www.publicaffairs.water.ca.gov/newsreleases/2004/12-09-04twitchell.cfm>

The Department of Water Resources operates and maintains the State Water Project, provides dam safety and flood control and inspection services, assists local water districts in water management and water conservation planning, and plans for future statewide water needs.

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